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ABSTRACT

Following up on data compiled in a report issued two years previously, this article discusses the outcomes of a gifted program for children ages 13-14 in Torokszentmiklos, Hungary. It begins by describing the aim of the program and its main content elements. The program was designed to make learning methods and strategies of pupils effective, and to develop students' self-knowledge, self-image, and social image. Seventy-eight students participated in the program. Results found: (1) pupils participating in the program were talented and had high IQ scores, but had not automatically developed learning strategies; (2) the program lasted 15 weeks and resulted in measurable development; (3) the most intensive development was remembrance of text; (4) methods of attention functioning developed rapidly; (5) learning methods played an important role in effectiveness of learning; (6) development of learning methods and school achievement were positively correlated; (7) there was no significant correlation between learning methods and scores of intelligence; and (8) there was not a strong correlation between students' opinions of themselves and the opinions of their classmates; and (9) there was no correlation between learning methods and self-evaluation and evaluation of other people. (CR)

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LEARNING TECHNIQUES AND SELF-KNOWLEDGE WITH TALENTED SCHOOLCHILDREN

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On the first and second conference of ECHA we reported that we had been working using a special talent developing program in Hungary since 1987 (Törökszentmiklós, Reformed Elementary School) with children of age 13-14 (Balogh, Nagy, 1990, 1991). On that conference we summarized our experiences of the program and the developing effect of it. Now we will not talk about this but we would like to mention the problems raised from that time and our endeavours at solving them.

In the course of our work first the everyday experience then the inquiries also proved that the development of talented pupils participating in our program was retarded by the lack of effective learning methods and by the lack of real self-knowledge. For this reason we collected a special program for direct development of these two important factors. In our lecture we will report on this program according to the following sections:

- aim of the program and the main content elements of it;
- presentation of the results of the examination and the analysis of them;
- conclusions useful for further talent developing work.

By way of introduction we would like to talk about the reasons why these two elements i.e. development of learning methods and self knowledge seemingly far from each-other could combine. The explanation is obvious: both of the two factors play a significant role in development of the talent of children as it was proven by several research before. And as these two factors got into the program at the same time, it made possible to investigate certain relations as well.

AIM OF THE PROGRAMS, PRINCIPAL CONTENT ELEMENTS

1. Program of development of learning methods

The aim of this program was to make learning methods and strategies of pupils effective. Two channels presented themselves for it: a direct and an indirect.

The essence of direct development is making the children train such learning methods which are missing from their learning methods. In this case there is an opportunity to introduce the new methods into the learning activity and knowledge treatment (Schmeck, 1988; Twining, 1991).

The essence of indirect development is developing those intellectual capacities directly that make possible the shaping of more effective learning strategies. A problem emerging many times is that those intellectual capacities are missing from the pupils which are the conditions of the more intensive – profound – learning techniques (Gross, 1991; Lapp, 1995).

Both of the elements got a role in our program. For direct development we used a lot of deep methods.

- Definition of an unknown word. (On the basis of context analysis and context disintegration. Turning over the pages back to a chapter learned before. Using dictionaries, encyclopedias and reference books.)
- Paraphrasing: rephrasing some sentences and passages, telling them by own words.
- Transcripting and defining key concepts.
- Searching for relations between concepts and fixing them in memory. (Associative concepts groupable around an important concept. Relations of subordinations and superordinations. Connections of co-ordinations. Contrasted concepts. Relations of causes and effects.)
- Survey. (Preliminary survey: the title, subtitles, main paragraphs, short summaries of parts of chapters. Subsequent survey: survey of underlinings, comparison with sketches or with own notes.)
- Summing up in words or in writing.
- Studying and explanation of sketches, figures and diagrams etc.)
- Asking questions regarding the subject. (There must be understanding behind a good question!)
- Talking with classmates about the information learned.

In the course of indirect development we aimed at the following elements of intellectual capacities:

- Elements of function of attention. (Extent, durability, distribution, transference.)
- Mechanisms of understanding thinking. (Concept formation, revelation of connections, recognition of phenomena and ranging of them.)
- Mnemotechnic methods. (Coding mechanisms.)
- Components of problem solving thinking. (Understanding of exercises, phases of thinking and actions of thinking.)

Of course direct and indirect developments are not separated sharply in practice but the individual points of view get a dominant role in some exercises. A 30-hour program was worked out by us for the development.

2. Program of development of self-knowledge

The aims of this program were development of self-knowledge, self-image and social image. The following main points of view were enforced in the development and the inquiry.

- Self-evaluation appearing in different situations. (Situations of accomplishment, social situations, ethical standpoint.)

- Relation of self-image and social image of class-mates.
- Comparison of self-image and social image of the pedagogue.
- Alteration of inclination to empathy.

The program consisting of ten meetings took place in subsequent weeks. Each of the meetings was two hours long. On the first and on the last occasion questionnaires were filled in by the pupils regarding their own self-image and regarding what – according to them – some important persons (father, mother, teacher, class-mates) thought of them. Class-mates expressed their opinions about each other as well.

Briefly about the group processes. The organization and starting of the group took place in accordance with the group leading practice applied in Hungary: outlining the expectations, discussion of group rules and acceptance of group rules. The main elements of the group process were formed by the encounter games of Rogers and verbal games. A number of the first meetings concentrated on the introduction of the group as a whole. Parallel knowledge of the individuals and the group took place. Regarding that the children were at the beginning of adolescence, we paid special attention to bringing it to the surface and to discussion of opinions of boys and girls formed of each other. We did it also in a form of a game. The emotional peak of the whole group process was a game that is known by the name of "Hot Chair" in Hungary. The children set down alternately, one by one on the chair that was in the middle of the circle. Every class-mate went to the child sitting on the chair: "My opinion of you is the following ...". According to the opinions written by the children subsequently this game was the hardest but also the most exciting and meaningful for them.

Presentation and analysis of results of the inquiry

1. Results of development of learning techniques

Altogether 78 pupils divided into four groups participated in the two developing programs. To test the effectiveness of the programs we performed measurements before the series of the group meetings and after as well.

We examined the elements of learning methods, which elements play a significant role directly or indirectly at processing and storing the knowledge. We have already outlined these elements and now let us see the results (*Table I*).

Table I

	1st measurement (%)	*2nd measurement (%)*	*Difference (%)*
Understanding thinking			
• *Emphasizing the essence*	*51.6*	*60.9*	*9.3*
• *Concept classification*	*46.4*	*60.2*	*13.8*
• *Searching for main concept*	*55.9*	*63.9*	*8.0*
Mnemotechnics			
• *Remembrance of text*	*67.0*	*87.7*	*20.7*
• *Remembrance of form*	*70.7*	*83.5*	*12.8*
Functioning of attention	*67.7*	*84.8*	*17.1*

Conclusions

1. Pupils participating in the program are talented regarding their general intellectual capacities, they have high scores of IQ (we talk about it later in details), but it does not mean automatically that they have developed learning strategies. Results of the first measurement show this conclusion.
2. The developing program lasted 15 weeks and this period brought a significant development. It is proven by the differences of the two measurements.
3. Nevertheless, regarding the elements of the learning methods we can find significant differences in development.
   - The most intensive development was observable at remembrance of text. Not only the methods used in the program played a great part in it but surely also the fact that the pupils could exercise such methods in their everyday learning as well. Remembrance of form is more infrequent at schools.
   - It is shown by the results that methods of functioning of attention can be developed rapidly. This is an important fact since poor attention is a frequent obstacle in successful work and in talent development.
   - Elements ensuring the understanding of learning developed the least as it was expected. On one hand the reason for it is that understanding thinking has several components and such components get connected more slowly. On the other hand understanding is never independent of acquired experiences and learned knowledge and these elements are built and grow richer also slowly. The functioning of memory and attention are bounded more to the situation given and these learned methods can come into full display more distinctly in this way.

2. Connection of learning methods to intelligence and school achievement

As we indicated before we performed inquiries regarding not only the learning methods but we wanted to disclose the connection of learning methods to other factors as well. Such factors are intelligence and school achievement. What do the correlation calculations show? (*Table 2*)

Table 2

	LM	*DLM*	*VQ*	*PQ*	*IQ*	*SchA*
LM	*1.0000* [b]	*.0034*	*.1793*	*.1699*	*.2353*	*.2568*
DLM	*.0034*	*1.0000* [b]	*-.1796*	*-.0583*	*-.1545*	*.2664* [a]
VQ	*.1793*	*-.1796*	*1.0000* [b]	*.0678*	*.6670* [b]	*.1106*
PQ	*.1699*	*-.0583*	*.0678*	*1.0000* [b]	*.7871* [b]	*.1408*
IQ	*.2353*	*-.1545*	*.6670* [b]	*.7871* [b]	*1.0000* [b]	*.1853*
SchA	*.2568*	*.2664* [a]	*.1106*	*.1408*	*.1853*	*1.0000* [a]

Number of cases: 78 *1-tailed signif: [a] -.01; [b] -.001*

(LM: Learning methods, DLM: Development of learning methods, VQ: Verbal intelligence, PQ: Practical intelligence, IQ: Intelligence-quotiens, SchA: School Achievement)

Conclusions

1. Although there is no significant connection between learning methods and school achievement the value show that learning methods play an important role in effectiveness of learning, thus the development of learning methods are essential for the talented children as well.
2. On the other hand the development of learning methods and school achievement are in significant positive correlation. In the background of this fact there must be that children learning better are more receptive to the new learning method according to the requirements and this is one of the reasons why they can perform better.
3. There is not significant correlation between learning methods and scores of intelligence. Thus high level of intelligence does not run automatically together with developed learning methods. That is reasonable ground for believing that special development of learning methods is important even talented children.
4. Although just a low degree but negative correlation is observable between development appearing in learning techniques and scores of intelligence. In the background of this fact there must be the reason that the lower the intelligence is, the more new things are given by a developing program for a pupil. This can also be a general problem and not only the problem of talented pupils.

Comparison of boys and girls. Values of correlation (*Table 3* and *Table 4*)

Table 3. Boys

	LM	DLM	VQ	PQ	IQ	SchA
LM	1.0000 [b]	-.2077	.2335	.1755	.2846	-.1192
DLM	-.2077	1.0000 [b]	-.2394	-.0098	-.1648	.2496
VQ	.2335	-.2394	1.0000 [b]	-.0905	.5584 [b]	-.0484
PQ	.1755	-.0098	-.0905	1.0000 [b]	.7740 [b]	.0536
IQ	.2846	-.1648	.5584 [b]	.7740 [b]	1.0000 [b]	.0300
SchA	.1192	.2496 [a]	.0484	.0536	.0300	1.0000 [b]

Number of cases: 34 — 1-tailed signif: [a] -.01; [b] -.001

Table 4. Girls

	LM	DLM	VQ	PQ	IQ	SchA
LM	1.0000 [b]	.2262	.1386	.1636	.2011	.6110 [b]
DLM	.2262	1.0000 [b]	-.1573	-.1144	-.1691	.2915
VQ	.1386	-.1573	1.0000 [b]	.1881	.7118 [b]	.3040
PQ	.1636	-.1144	.1881	1.0000 [b]	.8199 [b]	.2318
IQ	.2011	-.1691	.7148 [b]	.8199 [b]	1.0000 [b]	.3512 [a]
SchA	.6110 [b]	.2915	.3040	.2318	.3512	1.0000 [b]

Number of cases: 44 — 1-tailed signif: [a] -.01; [b] -.001

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Conclusions

1. The former (2), (3) and (4) conclusions are valid both for boys and girls. In this respect there is not any difference between them.
2. Nevertheless connection between learning methods and school achievement is significantly different in the two sexes. There is a negative value with the boys and a significantly positive correlation with the girls. The background of this fact may be that girls learn systematically day by day so learning methods being in their possession are profitable also for school achievement.
3. There is a significantly positive connection between school achievement and intelligence in case of girls but there is no such connection observable in case of boys. The reason for it can be found certainly in point (2).

3. Results of development of self-knowledge

The framework created by the self-knowledge group made it possible for us to investigate the opinion of children of themselves, using questionnaires adequate to their age.

We got also a picture of the children, namely they told us what some persons they consider important in their environment think of the children.

The essence of the questionnaire is as follows:

Twelve characteristics were listed on the paper, for example cleverness, beauty, independence, sincerity, power of will, diligence etc.

> *Instruction: Please evaluate yourself according to the following characteristics! Think of your form-master's opinion, what he (she) would do if he (she) expressed his (her) opinion of you in scores according to these points of view. Seven points would go to such a person of whom that feature is very characteristic. One point would go to a person of whom that feature is the least characteristic. Four points mean the average.*

Thereafter each of the children filled in also the other columns of the questionnaire according to what they think the opinion of their father, mother and class-mates is. Finally every child evaluated himself or herself.

We could compare the self-image and the supposed image of class-mates with the real opinion of the class-mates; every child was evaluated by every member of the group. Counting the average of the total score every child got a score that indicated the opinion of the group about the child in question.

At the end of the group process we asked the children to fill in this questionnaire again, but in that case only in two ways: we asked their own opinion and the supposed opinion of their class-mates, since we were curious to know if the psychological events in an environment quite different from school and the feedback from the school-mates change the self-image of the children or not.

Of course the whole group filled in the questionnaire regarding each of children again.

In the course of the statistical analysis we performed correlation calculations between each of the evaluation and we applied two-sample T-test for comparing boys and girls in each evaluation. Here are the data and the table of correlation (*Table 5* and *Table 6*).

Conclusions

1. From the table of correlation values for the connection of almost every evaluation. In other words according to the opinion of the children their father, mother, class-mates and form-master have the same opinion about them as they have about themselves.

Table 5

	MO	FA	OWO1	OWO2
MO	1.0000	.9695	.9367	.9356
FO	.9695	1.0000	.9411	.9443
OWO1	.9367	.9411	1.0000	.9909
OWO2	.9356	.9443	.9909	1.0000
CMO1	.9568	.9386	.9370	.9462
CMO2	.9522	.9379	.9374	.9531
FMO	.9336	.9275	.9520	.9623
SchA	.5387	.5338	.5043	.5218
CMRO1	.9376	.9256	.9165	.9384
CMRO2	.9325	.9147	.9153	.9331

Number of cases: 39 1-tailed signif: - .01, - .001

(MO: Mother, FO: Father, OWO1,2: Own opinion 1,2, CMO1,2: Class-mates' opinion 1,2, FMO: Form-master's opinion, SchA: School achievement, CMRO1,2: Class-mates' real opinion)

Table 6.

	CMO1	CMO2	FMO	SchA	CMRO1	CMRO2
CMO1	1.0000	.9949	.9541	.5396	.9519	.9466
CMO2	.9949	1.0000	.9592	.5467	.9553	.9525
FMO	.9541	.9592	1.0000	.5341	.9392	.9306
SchA	.5396	.5467	.5341	1.0000	.5677	.5619
CMRO1	.9519	.9553	.9392	.5677	1.0000	.9931
CMRO2	.9466	.9525	.9306	.5619	.9931	1.0000

This fact indicates the lack of a definite social image but this is an acceptable phenomenon, of course, at that age. Nevertheless, the close correlation may also indicate that such important references have a striking role in the development of self-image of the children.

2. It is interesting to examine the connection between the first and second own opinion (given at the last meeting). This is the strongest of all of the correlations. This fact indicates to us that the evaluation of themselves remained very consistent during the period tested. The group process did not bring such new realizations for them that could lead to a change in their self-image. Quite the contrary: it helped to confirm it. Of course a certain psychological fact can also play a significant role in it, namely people are susceptible only to such feedback signs of the surroundings that fit with their own self-evaluation.
3. The next important conclusion is that there is not a strong correlation between their own opinion and the real opinion of their class-mates. The class-mates evaluate differently from the own opinion of the children about themselves. However, it is very interesting that there is a strong positive correlation between the supposed and real opinion of the class-mates. It shows that the children can predict the opinion of their class-mates very well. Similarly to the permanence of own opinion, the opinion of class-mates shows also a high correlation in the two different inquiries. We can stress

the same thing in this case as well, namely the group process helped to maintain the image formed and to stabilize the opinions.

4. In the course of comparison of boys and girls the two-sample T-test could not indicate evaluable result in any of the evaluation lines.

4. Connection between learning methods, self-evaluation and evaluation of other people

We were searching for relations between performance reached by different learning methods, self-evaluation and evaluation of other people as well. Here and now we report only such data that can be important for reaching significant conclusions. Values of correlation (*Table 7*):

Table 7

	OWO1	*OWO2*	*CMO1*	*CMO2*
LM	*.2188*	*.2451*	*.0583*	*.0727*
DLM	*-.1985*	*-.1791*	*-.3018*	*-.2575*
Number of cases: 39			*1-tailed signif: -.01, -.001*	

Conclusions

1. There is not any significant correlation between learning methods and self-evaluation and evaluation of other people.
2. On the other hand there is a negative correlation between development of learning methods and self-evaluation although this correlation is not significant. A possible reason for it is that the poorer opinion the pupil has of himself or herself, the higher motivation he or she has for reaching a better result and the new methods offer a good opportunity for it. Of course, in the background of this fact there is another reason, namely the group-norm in a class of talented pupils is endeavouring for better achievement.
3. There is a similarly negative connection between the result of development of learning methods and the class-mate evaluation given by the pupils. The explanation of it is similar to the former: over and above the working-norm of endeavouring for better achievement the pupil aims at increasing his or her value in the school-mates' view and it can be reached through eminent school achievement and effective learning methods. That is why pupils are motivated for development of the latter factor to a great extent and it is shown also by the result.

Conclusions useful for further talent developing work

1. High level of intelligence does not run automatically together with developed learning methods. So special development of learning methods is important – even for talented children! In the course of this work we must pay attention to both direct and indirect developing. By direct developing we must make pupils train the learning methods which are missing from their methods – above all we must concentrate on the deep techniques. By indirect developing we must form the mental qualities which make the shaping of the more effective learning strategies possible.

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2. Summarising the facts we confirm that our investigation found these children more talented than the average probably just before the great, typical, self-searching, uncertain struggles of adolescence when they were searching for the answer to the question: "Who am I?" We think it is important to help them with real self-knowledge and self-control (Freeman, 1991; Katzko Mönks, 1995). The special developing programs must contain this element – according to the age – as well.
3. In this personality-developing process – as research results also show – group-norms get a significant role as well. The endeavouring to the possibly best achievement which works in gifted pupils' class plays a decisive role in self-developing and self-control. Pupils in such surroundings also aim at rising their values in their class-mates view. To this the road goes directly through good achievement in school, indirectly through effective learning methods. That is also among the reasons why developing of learning techniques are so important at gifted children.

REFERENCES

Balogh, L. Nagy, K. (1990): Developing Talented Children: Problems and Experiences. European Journal for High Ability 1., 179-186 p.

Balogh, L. Nagy, K. (1991): The Development of Personality, Abilities and Social Relations in a Special Class. European Journal for High Ability 2., 134-138 p.

Freeman, J. (1991): Gifted Children Growing Up. Cassel, Heinemann, Portsmouth, NH.

Gross, R. (1991): Peak Learning. Putnam Books, New York.

Katzko, M. W. Mönks, F. (Eds.).(1995): Nurturing Talent. Van Gorcum, Assen, The Netherlands.

Lapp, D. C. (1995): Don't Forget! Addison Wesley Publishing Company, New York.

Schmeck, R. R. (1988): Learning Strategies – Learning Styles. Plenum Press, New York – London.

Twining, J. E. (1991): Strategies for Active Learning. Allyn Bacon, Boston – London.

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